



Application No. 10/730,977
Art Unit 2871

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Amendments to the Claims

1. (Currently Amended) A liquid crystal display device comprising:
a plurality of gate lines each having a repair pattern for at least one unit pixel;
a plurality of data lines arranged to cross the gate lines;
a pixel electrode formed at a unit pixel region defined as one of the gate line and one of the data lines intersect; and
a storage line overlapping with the pixel electrode; and
wherein the repair pattern includes protrusions extending in opposite directions from a portion of the gate line, so as to be formed under two adjacent pixel electrodes.

2-4. (Canceled)

5. (Original) The device of claim 1, wherein the repair pattern electrically connects the corresponding gate line and pixel electrode when the corresponding gate line and pixel electrode are welded to each other via the repair pattern.

6. (Original) The device of claim 1, wherein the device has a normally white mode.

7. (Original) The device of claim 1, wherein the device has a storage-on-common type.

8. (Original) The device of claim 1, further comprising:
a thin film transfer for each unit pixel.

9. (Withdrawn-Currently Amended) A liquid crystal display device comprising:

a plurality of gate lines formed in parallel to each other;
a plurality of data lines formed in parallel to each other and crossing the gate lines;

a pixel electrode formed at a unit pixel region defined by one of the gate lines and one of the data lines, and having a repair pattern that includes at least two protrusions extending in opposite directions to overlap with adjacent gate lines; and

a storage electrode overlapping with the pixel electrode.

10-11. (Canceled)

12. (Withdrawn) The device of claim 9, wherein the pixel electrode is electrically connected to the corresponding gate line via the corresponding repair pattern as heat is applied to the corresponding repair pattern.

13. (Withdrawn) The device of claim 9, wherein the device has a normally white mode.

14. (Withdrawn) The device of claim 9, wherein the device is a storage-on-common type.

15. (Withdrawn) The device of claim 9, further comprising:
a thin film transistor for each unit pixel region.

16. (Currently Amended) A redundancy repair pattern structure

usable in a display device, the device including a plurality of gate lines and data lines crossing each other, a plurality of pixel electrodes each at an intersection of the corresponding gate and data lines, and a plurality of storage lines parallel to the gate lines, the structure comprising:

a redundancy repair pattern extending from each of the gate lines and formed under a pixel electrode; and

wherein the repair pattern includes protrusions extending in opposite directions from a portion of the gate line, so as to be formed under two adjacent pixel electrodes.

17. (Canceled)

18. (Original) The redundancy repair pattern structure of claim 16, wherein the repair pattern electrically connects the corresponding gate line and pixel electrode when the corresponding gate line and pixel electrode are welded to each other via the repair pattern.

19. (Withdrawn-Currently Amended) A redundancy repair pattern structure usable in a display device, the device including a plurality of gate lines and data lines crossing each other, a plurality of pixel electrodes each at an intersection of the corresponding gate and data lines, and a plurality of storage lines parallel to the gate lines, the structure comprising:

a redundancy repair pattern extending from each of the pixel electrodes and overlapping with at least one gate line; and

wherein the repair pattern includes at least two protrusions extending in opposite directions to overlap with adjacent gate lines.

20. (Canceled)

21. (Withdrawn) The device of claim 19, wherein each pixel electrode is electrically and selectively connected to the corresponding gate line via the corresponding repair pattern as heat is applied to the corresponding repair pattern.

22. (Currently Amended) A method for providing a liquid crystal display device, the method comprising:

forming a gate line having a repair pattern including protrusions extending in opposite directions from a portion of the gate line on a substrate;

forming a gate insulation film, a semiconductor layer and a conductive layer on the substrate;

forming source/drain electrodes;

forming a passivation layer on the source/drain electrodes; and

forming a pixel electrode on the passivation layer such that the pixel electrode overlaps with the repair pattern.

23. (Original) The method of claim 22, wherein the pixel electrode and the gate line are electrically connected to each other by irradiating a beam to the repair pattern.

24. (Withdrawn-Currently Amended) A method for providing a liquid crystal display device, the method comprising:

forming a gate line on a substrate;

forming a gate insulation film, a semiconductor layer and a conductive layer on the substrate;

forming source/drain electrodes;

forming a passivation layer on the source/drain electrodes; and

forming a pixel electrode having a repair pattern including at least two protrusions extending in opposite directions on the passivation layer such that the repair pattern overlaps with the gate line.

25. (Withdrawn) The method of claim 24, wherein the pixel electrode and the gate are electrically connected to each other by irradiating a beam to the repair pattern.

26. (New) A liquid crystal display device comprising:
a plurality of gate lines formed in parallel to each other;
a plurality of data lines formed in parallel to each other and crossing the gate lines;
a plurality of pixel electrodes, including a pixel electrode formed at a unit pixel region defined by one of the gate lines and one of the data lines, and having a repair pattern including at least two protrusions extending in opposite directions to overlap with adjacent gate lines; or
a plurality of gate lines each having a repair pattern for at least one unit pixel that includes protrusions extending in opposite directions from a portion of the gate line, so as to be formed under two adjacent pixel electrodes; and
a storage electrode overlapping with the pixel electrode.

27. (New) A method for providing a liquid crystal display device, the method comprising:

forming a gate line having a repair pattern including protrusions extending in opposite directions from a portion of the gate line on a substrate;

forming a gate insulation film, a semiconductor layer and a conductive layer on the substrate;

forming source/drain electrodes;
forming a passivation layer on the source/drain electrodes; and
forming a pixel electrode on the passivation layer such that the pixel electrode overlaps with the repair pattern; or
forming a gate line on a substrate;
forming a gate insulation film, a semiconductor layer and a conductive layer on the substrate;
forming source/drain electrodes;
forming a passivation layer on the source/drain electrodes; and
forming a pixel electrode having a repair pattern including at least two protrusions extending in opposite directions on the passivation layer such that the repair pattern overlaps with the gate line.

28. (New) A redundancy repair pattern structure usable in a display device, the device including a plurality of gate lines and data lines crossing each other, a plurality of pixel electrodes each at an intersection of the corresponding gate and data lines, and a plurality of storage lines parallel to the gate lines, the structure comprising:

a redundancy repair pattern extending from each of the gate lines and formed under a pixel electrode; and

wherein the repair pattern includes protrusions extending in opposite directions from a portion of the gate line, so as to be formed under two adjacent pixel electrodes; or

a redundancy repair pattern extending from each of the pixel electrodes and overlapping with at least one gate line; and

wherein the repair pattern includes at least two protrusions extending in opposite directions to overlap with adjacent gate lines.